

Meet the Hardenberg

By Mark Bowlby

The year 2018 marked the one-hundred-year anniversary of the close of six decades of work trying to turn the Hardenberg Mine into a paying venture. This mine is in the Middle Bar region of Amador County, California. It lies south of the town of Jackson, on the Mokelumne River. In this anniversary year it seems only right to reflect on the history of this oft-overlooked Amador County mine.

You say you have not heard of the Hardenberg? Well, that's understandable, and for good reason. There isn't any mention of a Hardenberg Mine in the voluminous works of Amador County historians Jesse Mason^a or Larry Cenotto. It is located well off the beaten path and almost out of sight unless you know what to look for.

I have yet to find any original photos of the mine. The Amador County Archives has a fabulously detailed photo of the Middle Bar region from the north side of the Mokelumne River, dated from the 1880s, (see photo this page). The back of the photo includes the handwritten note "*the old Hardenburg (sic) mill may be seen*", but I'm not so sure. I have stood in the spot this photo was taken from and know that none of the structures in the photo match any historically described mill site locations that existed within the frame of this photo.



Middle Bar region in the 1880s. This photo was taken during a period when the bridge was out. Courtesy of Amador County Archives.

Fortunately, we have numerous pieces of information scattered across newspaper articles, mining journals, state mining reports, county archive and records departments, and other historical documents. Combined, they allow one to reconstruct a pretty detailed history of this mine.

Amador County had hundreds of mines that dotted its auriferous landscape during mining times. Jim Norris, at the

county museum has compiled a list of over 500, only a few of which amounted to much of anything. So why focus on this one, over the hundreds of other long forgotten mines?

My interest was piqued to investigate this mine after coming into possession of a variety of original documents, mostly from the 1890s. This report is the result of my research, and is still

^a Mason, in his 1881 History of Amador County published by Thompson and West, does provide a brief mention of this mine under one of its other names that I will reveal later in our story.

incomplete at best. (When is any historical account considered “complete”?) To my knowledge, it is the first attempt at a comprehensive compilation of the history of this mine.

While the Hardenberg sits in relative obscurity at the present, in its day it attracted the attention of members of Amador County’s elite mining fraternity. Alvinza Hayward and Charles Lane, John Martin and Henry Malloch, William Loring and James Parks, to name a few, all mustered considerable experience, resources and finances to plumb its rocky depths. And for over sixty years, the Hardenberg played the role of eternal tease, forever dangling, but never delivering, on its seductive promise of eventual payoff. State mining reports released during its lifetime tell us partly why that was. These reports regularly described common and significant problems that occurred in typical mines. Pity our poor Hardenberg for oft appearing as the poster child for many such described problems.

The namesake of our mine is James Richmond (or more commonly, “J. R.”) Hardenbergh. He immigrated to California in 1849 from New Jersey, and settled in Sacramento. There, he quickly established himself in business and politics. He served as one of its earliest mayors, first in 1850, and then again in 1852. He was appointed by President James Buchanan as Postmaster of Sacramento, and later by President Ulysses S. Grant as U.S. Surveyor General for California.

A glowing biography of him, written while he was still alive,¹ says very little about his efforts in mining, except that it was an unsuccessful venture. It spends a lot of time, however, describing the immense stature he achieved in his public endeavors, concluding that “*No man on the Pacific coast is so well and favorably known as Mr. Hardenberg, especially among the early pioneers, and no man has more numerous and warm personal friends than he has.*” Many different groups worked this mine, but it is my guess that his stalwart reputation as a pioneer helped to permanently endear his name to it.

Before starting our story, it is worth noting that history is not consistent in the spelling of the Hardenbergh name, whether in reference to the person, or to the mine. You will find it variously rendered as Hardenbergh, Hardenberg, Hardenburgh, Hardenburg, and even a Hardingburg. For the purpose of our story, I will use *Hardenbergh* to refer to the person since that is the original spelling of his Dutch heritage name. I will use *Hardenberg* to refer generically to the mine, but will occasionally use other spellings as it appears in direct quotes. As a result, even this report will be inconsistent in this respect.

The Early Years (Pre-1867)

As mentioned already, Hardenbergh was not the only person to work this mine. He also wasn’t the first. Research has yet to reveal the definitive date or circumstances surrounding the initial discovery that later became the Hardenberg Mine. One source² states it may have been one of the first quartz mines operated in California. That would be a considerable distinction, but there is no evidence to substantiate this claim.

The earliest records I have found so far in my research are three deeds recorded in Amador County Records, all dated June 6, 1859. Together they describe an agreement that was struck between Jabez C. Arnold and Marlette and Company. The latter included John B. Marlette, Joseph Ginaca, Michael Gerans, Peter Bartola (or Bartolo?) and Anthony Gintz. These deeds

show that Arnold entered into a co-partnership with Marlette's company, and describe the terms of how the cash and mining assets each brought to the party were apportioned.

The first³ describes the assets that Arnold contributed:

- 1) A quartz lode twelve hundred feet in length, located in Amador County on the north bank of the Mokelumne River, about a quarter mile above the Middle Bar Bridge. It is referred to as "Arnold's Lead", located on "Pigot's Flat,"^b and bounded on its south side by another quartz claim referred to as "Sargeant's^c (sic) claim".
- 2) The land on which Arnold's claim was located.

Together these comprise the property that would later become the Hardenberg mine. The deed points to Arnold as the original claim holder. Unfortunately, we don't know when that occurred.

A second deed⁴ describes the assets that Marlette's company brought:

- 1) A quartz lode six hundred feet in length, located in Amador County on the north bank of the Mokelumne River, about a quarter mile below the Middle Bar Bridge. It is referred to as "Marlette & Company's old lead."
- 2) A water mill near the above quartz lode constructed for crushing ore.
- 3) A water ditch constructed to furnish waterpower to the mill. The ditch brought water from somewhere upriver, down along the northern bank to the mill.
- 4) All other associated works, machinery, tools, structures and facilities for quartz mining and crushing purposes.
- 5) The land on which all of the above assets were located.

Together, these two deeds granted one-sixth ownership of each of the above assets to Arnold, and five-sixths to the five men in Marlette's company. The two parties each paid the other \$1000.

Based on this, it would seem that there had been sufficient yield from the Marlette claim to justify construction of a mill and ditch prior to these deeds. An article written on Middle Bar history⁵ references two letters (one dated December 6, 1857 and another later in 1858) that both mention work on a ditch at Middle Bar. The latter indicates it was at least two and a half miles in length. It seems reasonable to assume that it was the same ditch described in the deed. The authors of the article drew the same conclusion.

The third deed⁶ in the series further grants Arnold one-sixth of all quartz rock already quarried from Marlette's lode. It declares that the co-partnership would carry on the business of quartz

^b Most deeds in county records reference *Pigots Flat*, although one renders it as *Picketts Flat*. Whether Pigot (or Pickett) had any significance to the early history of this property is still unclear. I have not found any early reference to Pigot, but Calaveras County Records has an entry for a river claim by an "Edward Picket & Co." dated May 31, 1854. Unfortunately, the book containing the actual claim has been lost, so we may never know whether he had any connection to the history of this piece of land.

^c The Sargents were an early Amador County pioneering family that settled in the Middle Bar region. They maintained a mining claim on the Mokelumne River. It is referenced as a boundary property in many of the deeds for our mine.

mining under the pre-existing title of “Marlette & Company,” sharing any profits and losses that resulted. It further states that Arnold was indebted to the others for \$1000, and specified the terms for him to pay off the loan. It is unclear as to why he was in debt, since the transaction fees specified in the deeds were fully offsetting. Perhaps Arnold also brought debt to the relationship.

It turns out this co-partnership would be short-lived. On October 4 of 1859,⁷ Arnold sold his one-sixth share to Paul S. Shumway, for \$800. We have no further information on Shumway, or the reason for this transaction.

The mystery is deepened by the fact that the very next month, Arnold is recorded⁸ as having sold *all* of both lodes, the quartz mill, ditch (and now the water rights) and associated tools back to the original five men of Marlette and Company for \$2400. Absent is any mention of Shumway, begging the question as to how Arnold got his one-sixth back. There is also no reference to any division splits, making it sound like Arnold had somehow taken full ownership of all assets, and was now selling them back, at a higher price. Not bad, considering he came into the partnership only five months earlier with the smallest share and a \$1000 debt. Arnold also formally dissolved his partnership with Marlette’s company.

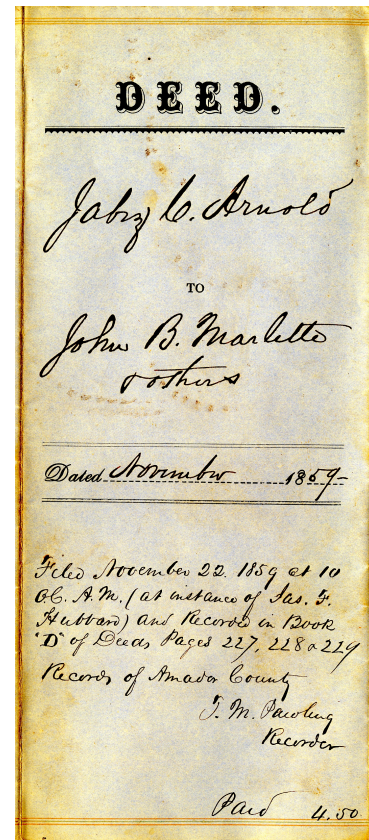
Following this sale, Marlette and his company, sans Arnold, held this entire group of assets including Arnold’s original lead. Trouble started for them when all at once on July 19 of 1861, eight separate attachment claims were filed against them in district court for a total of \$8,038.02 unpaid wages and fees for services.

One of the claims⁹ was from Andrew J. Sargent, filed for \$351.61. The court issued a Writ of Attachment specific to Arnold’s claim as surety. Sargent’s claim neighbored Arnold’s, sitting between it and the Mokelumne River.

Interestingly, the writ describes a steam engine and boiler for hoisting ore, and a 16-stamp quartz mill, both associated with Arnold’s lode, along with the water ditch and water rights. All were being attached as part of the suit. The location of the mill is at odds with other deeds for these properties, both before and after this writ. They place it by Marlette’s claim and not Arnold’s. It does confirm that some significant work had been done on one, or both claims.

On March 14, 1862, the district court issued an Order of Sale against all of Marlette and Co.’s properties.¹⁰ This was to satisfy non-payment against two mortgages issued by Ellis Evans,^d totaling \$3483.96 plus costs accrued. It’s possible they had drawn down loans to pay off the

^d Mason makes many references to Evans. Among them, Evans is listed as one of many sources of information for Mason’s work, and was elected county treasurer in 1856.



Last known deed between Jabez Arnold and John Marlette, dated November of 1859. Image courtesy of Amador County Archives.

multiple suits filed in 1861. The properties were to be sold at public auction within sixty days by then County sheriff Robert Cosner. Four days later, a second and final Order of Sale was issued¹¹ for slightly higher figures, possibly correcting or updating the original order. In both orders, the list of Marlette's company included two new names, those of Warren Hubbard, and Archibald McAdams. They were about to become important players in the chain of ownership.

On April 12, the properties sold at auction to Morgan Morgans^e for \$5200. It was enough to pay off the debt, interest accrued and associated fees, leaving \$1047 in surplus monies held by the sheriff.

But, less than two months after the sale, Hubbard and McAdams – the newcomers to the party – filed a petition in District court claiming they had issued a note for \$2200 to Marlette and Co. on June 11, 1861, one month before the original flurry of claims against Marlette. Since their loan occurred prior to those of Evans, they claimed priority for payoff from the recent sale. They asked for right to redeem the property, and use the surplus monies from the sale.



1866 map of Amador County showing Middle Bar region and Marlette's Mine and Mill. Arnold's Lead would have been located near the bottom of Hunt's Gulch, closer to the river.

Their request was granted, and the deed recorded on August 6, 1862.¹² Hubbard and McAdams paid \$5200 to redeem the property back from Morgans, plus another \$624, probably to cover additional accrued expenses.

It seemed, however, that Marlette and Co., were not letting go so easily. They may have tried to make a case for keeping the property, as there was yet another order,¹³ filed in District Court on October 16, 1862, for them to show just cause as to why the properties should not be transferred to Hubbard and McAdams. Apparently Marlette failed to do so, as

we see a second deed¹⁴ dated October 17, 1862, that again established Hubbard and McAdams as the rightful owners.

^e Morgans was a native of South Wales and an early California pioneer. He was involved in coal mining prior to coming to California. He was superintendent of the Haywood Mine in Sutter Creek from 1855 to 1868, then moved to Contra Costa County where he held the same title at the Black Diamond Coal Mine until at least 1882.

No other records are known to describe work that Marlette's company, or Hubbard and McAdams performed while holding title to these claims. The 1866 official Amador County map shows only Marlette's Mine and Mill in the Middle Bar region. It is located just below the Middle Bar Bridge, suggesting the mill was located by Marlette's lode, and not Arnold's.

The Hardenbergh Years (1867-1887)

McAdams and Hubbard held title to both quartz lodes, the mill, ditch and water rights, until 1867. A series of deeds we find in Amador County Records tells the story.

On May 8, 1867, McAdams and Hubbard entered into an agreement¹⁵ with our mine's next owners, J. R. Hardenbergh and John J. Haley. The latter two were living in San Francisco at the time. Hardenbergh and Haley were to take possession of the lode referred to as Arnold's lead, the mill, ditch and water rights for one year. Marlette's mine was not part of this agreement, being forever removed from further transactions on these assets. The agreement locates the mill in its original location, near Marlette's mine.

Hardenbergh and Haley were contractually obligated to begin work on this mine within thirty days, work it continuously for a year and drive the shaft to a depth of 150 feet, or forfeit their right to further work. At the end of one year, they would have the option to either walk away, or take ownership for \$7000.

A second agreement, dated December 10, 1867, declared that Hardenbergh was only acting as an agent for his wife Maria in the first agreement, and that she was truly the one entering into it using her money. It further specifies that Maria had a one-third interest in the agreement and Haley two-thirds. It remains a mystery as to the reasoning or possible advantage achieved by transferring title to her.

Word got out during the time between these two agreements, likely due to the visible pursuit of contractually obligated work. In October, the Amador Dispatch reported¹⁶ that the McAdams and Hubbard Quartz Mine^f was being reopened under the supervision of J. R. Hardenbergh. It described the work being done:

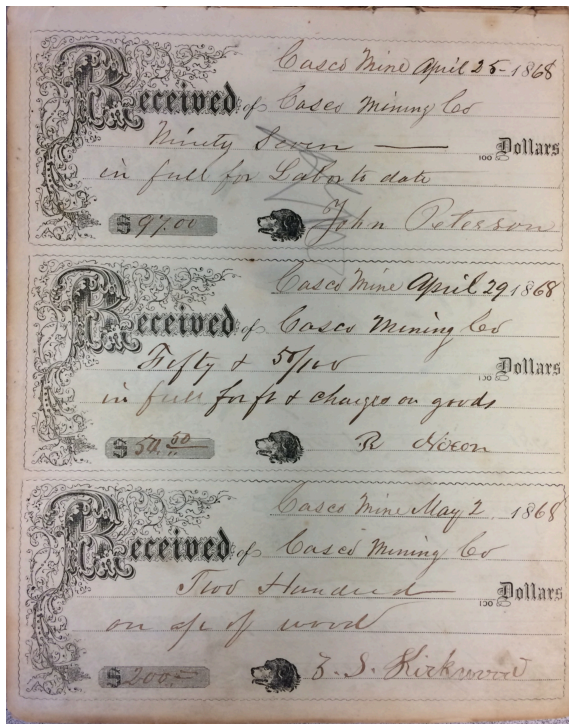
The old shaft is being retimbered, the engine was put in operation this week. The old shaft nearby justifies the above undertaking. If there is anything in will, and means to carry it out, this mine will be made to pay dividends again. Success attend them.

It seems McAdams and Hubbard had some prior success on the site. Note the reference to an older shaft. We'll revisit that later.

^f Many lists of Amador County mines (such as those on the Western Mining History, Mindat and BLM websites) locate a *Hubbard and McAdams Mine* on the north end of Sutter Creek instead of Middle Bar. This is not an error. Another deed in the Amador County archives, dated November 24, 1862, describes a mine in Sutter Creek purchased by McAdams and Hubbard from Alvinza Hayward. Jim Norris' list is the only I know of that identifies the one they had in Middle Bar (but not the one in Sutter Creek).

Hardenbergh and Haley organized the Casco Mining Co. to manage their operations, and thereafter the mine took on the Casco name^g. Amador County Archives has a receipt book¹⁷ for the Casco Mining Co., that records checks written from April 25, 1868, through December 22, 1869. The total recorded expenses are almost \$9600. In his 1881 *History of Amador County*, Jesse Mason tells us the owners of the Casco mine had sunk \$20,000 into it. The Casco receipt book, then, details almost half of that. Labor was the largest part, making up 61% of expenses. The next largest was wood and timbers at 19%. One check records the purchase of two tons of potatoes! The book doesn't, however, record any large capital expenditures such as hoisting or milling equipment. Those expenses were recorded somewhere else.

Some names familiar to Amador County residents appear as check recipients, including John Marlette and John Wetzler, both as laborers. We'll meet Wetzler later. Zack Kirkwood, after whom the Kirkwood Ski resort was named, sold them wood. Giovanni Cuneo sold them vegetables.



A page from the Casco Mining Company receipt book. Bottom receipt is for wood purchased from Zack Kirkwood. Courtesy of Amador County Archives.

Alas, I digress into minutia, let's get back to the story. In February of 1868, they reached a depth of 210 feet,¹⁸ exceeding the contractual requirement of 150 feet. By March they had hoisted 1000 tons of rock, and contracted to have it moved to the old Marlette mill for processing.¹⁹

In May, when their contracted year was up, they took the plunge and decided to purchase the mine. Maria Hardenbergh and John Haley purchased²⁰ it from Hubbard and McAdams, for \$7000. As part of that transaction, Maria's interest was reduced to one-quarter, increasing Haley's to three-quarters. Activity correspondingly jumped as they recorded the second highest known month for labor expenses.

In August, we read²¹ that they "struck the ledge" (a significant quartz vein), described as seven feet in width and showing free gold.²² This ledge was found at the 300-foot^h level with expectations²³ that it could yield gold at

the rate of \$100 per ton. It was the first of many promising strikes that, during the active life of this mine would entice its current and future owners into further exploration and investment.

^g The Casco name is referenced briefly by Jesse Mason, in his 1881 history of Amador County.

^h The Jackson Ledger of September 12, 1868, reported the depth at 375 feet.

Hardenbergh and Haley immediately ordered a 20-stamp mill to replace the previous one.ⁱ The new mill, plus additional ore processing equipment rumbled through downtown Jackson on its way to Middle Bar in October.²⁴ The Casco receipt book reflects this with nearly \$400 in freight charges in October, followed by heavy labor costs in November plus \$350 for carpentry work and mill construction. The Casco Mining Co. was investing for anticipated success. They may have needed short-term capital to make this purchase as Haley sold one-sixteenth of the property to a J. Clement Uhler in September²⁵ for \$4000. He then purchased it back²⁶ for the same price in March of 1869.

We don't know any specifics on the outcome of that find at the 300-foot level. However, we do know they encountered what was described as a "black greasy gouge".²⁷ A gouge is a region of fractured rock that occurs where two different rock layers grind against each other. On the good side, it can be a sign of a possible nearby paying vein. On the downside, it creates a region of instability, making it difficult to hold open shafts and tunnels that run through it. Hardenbergh and Haley did not know this would be a harbinger of a problem that would haunt them, and all future owners of this mine.

Operation at the mine continued into the New Year. Hardenbergh had taken up residence at the mine while Haley still lived in San Francisco.²⁸ The new water powered mill was in place along the bank of the Mokelumne River, located closer to the mine than the old one.

In January of 1869, it was decided to sink 200-feet deeper. In April, they upgraded their hoisting engine.²⁹ In May, they exceeded 500-feet in depth.³⁰

The owners executed a series of financial transactions in parallel with the bustling activity of operating the mine. In December of 1868, Maria Hardenbergh purchased³¹ an additional 760-feet of lode that extended north from the current property.

Then in August of 1870, Hardenbergh upgraded the business arrangement by incorporating under title of the *Chicago Milling and Mining Company*. They issued 5000 shares of stock for a capitalization of \$500,000,³² with plans to sink an additional 300-feet. Neither Maria, nor Haley were listed as officers of this new company. Title for the mine, new mill and ditch was transferred over to the new company.³³

With this new influx of cash, you would expect to see a corresponding increase in activity at the mine. Instead, we see the exact opposite. No report of further activity occurred during 1870.

In fact, news of the mine was already dropping off in 1869, which corresponds to a reduction in checks recorded in the Casco receipt book. After April of 1869, only labor expenses are recorded. Nothing was written for the months of June, October and November. We then see a big spike in labor costs in September, but no news to correspond it to. It could have simply been paying out past due monies. The last check written was December 22, 1869, and the rest of the book is blank.

ⁱ We don't know the configuration of the previous mill, but surely this was going to be a significant upgrade in ore processing capacity.

For the next two years, we see a series of sporadic, short reports that further lead me to conclude that the owners were giving up on this mine. Here are the only snippets we have of activities, or lack thereof, for the years following their incorporation:

- May 6, 1871, Mining and Scientific Press: *"We learn that a contract has been entered into to sink the Casco mine two hundred feet deeper, and work will at once be commenced."*
- June 17, 1871, Amador Dispatch: *"Mr. J. R. Hardenberg, the superintendent and owner of the Casco mine, at Middle Bar, was in town during the fore part of the week. He contemplates starting up his mill again in a few weeks."*
- March 3, 1872, Amador Dispatch: *"The Union quartz mine, located on Jones' Bar, on the Mokelumne river, was being re-opened; also the Casco mine, at Middle Bar. Both mines had been lying idle for want of capital and both were conceded to be good mines, capable of remunerative yield."* A lack of capital sounds odd just two years following their capitalization for half a million dollars. Perhaps the stock did not sell well, or the funds were invested elsewhere.
- March 9, 1872, Mining and Scientific Press: *"Work will soon be resumed on this mine, which is at Middle Bar on the Mokelumne River."*
- October 4, 1873, Mining and Scientific Press: *"The Casco Mine, which is being worked by Mr. McKinney, is at present, as it has been for some time, yielding a handsome profit. Mr. McK. took charge of the mine more than two years ago under the most unfavorable auspices. In consequence of the low stage of the water in the river, and its continual failing, it is thought the crushing of the rock will soon have to be suspended until the river rises sufficiently to afford the amount of water necessary to run the mill."*

What were the "unfavorable auspices" that lead to Mr. McKinney^j taking charge? Two years prior would place his start sometime in 1871. Hardenbergh still held title through Chicago Mining and Milling at that time, but work had likely stopped by the end of 1869. What was the "handsome profit" that McKinney had supposedly been achieving? These questions, and more to come, will have to remain unanswered for now.

Then suddenly, in November of 1873, we see record³⁴ of sale of this mine at public auction by then County Sheriff Henry B. Kelly. It tells of action against John J. Haley, J. R. Hardenbergh and Maria Hardenbergh. There is no mention of Chicago Mining and Milling. The proceeds of the sale were to be applied against a judgment of \$3,253.25, plus interest and expenses of sale. James Morgan (no relation to Morgan Morgans) was the highest bidder at \$500, which covered only a fraction of the debt.

From 1874 through 1881 we see a series of new incorporations for mining companies that include the names of both J. R. Hardenbergh and James Morgan – some in California and some in Nevada. Clearly Hardenbergh and Morgan were business partners in these new ventures. Haley's name is nowhere to be found, suggesting that his partnership with Hardenbergh had since dissolved.

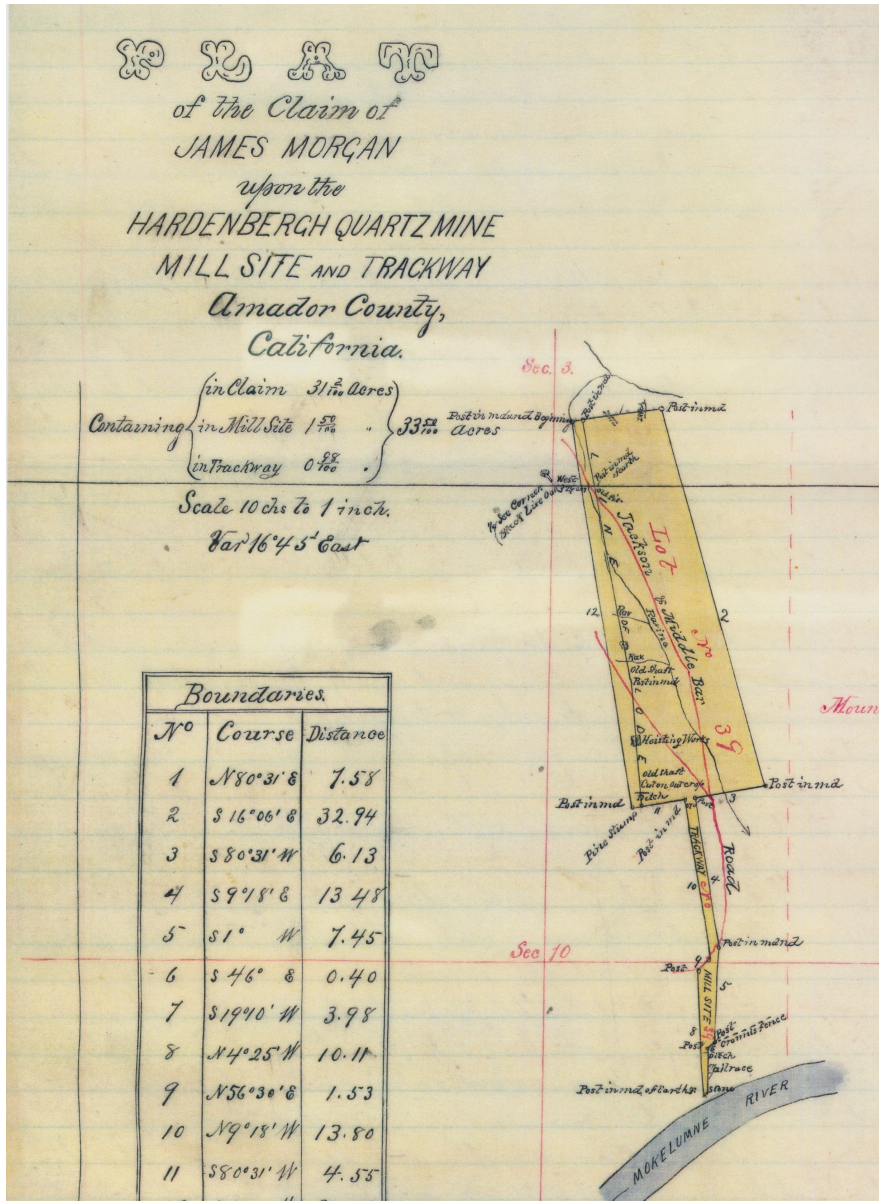
^j It is reasonable to assume this was Abraham McKinney, a long-time resident of Middle Bar. He was active in quartz mining in that area, and involved in the reconstruction of the Middle Bar Bridge that was swept away by the floods of 1861-62.

Jesse Mason, early Amador County historian, describes³⁵ Morgan as “a man with much experience in mining.” He writes of work Morgan had done in a couple locations near Middle Bar, but doesn’t give us dates for that work. It’s possible Hardenbergh and Morgan became acquainted in the field.

In 1874, a U.S. Patent³⁶ was issued “for the Claim of James Morgan upon the Hardenbergh Quartz Mine, Mill Site and Trackway”. Patents were issued to convert public lands into private

ownership. This one officially placed our mine in the hands of Morgan. Interestingly, the patent shows Morgan filed for it on October 16, 1872, one year prior to the sheriff’s sale. Remember this, we’ll come back to it.

The patent also shows a finely detailed plat map, revealing the paddle shape that would characterize the property for almost thirty years. All deeds prior to the patent described the mine primarily in terms of linear distances along the lode vein. From here forward it would be described via surveyed corners and boundary lengths.



Plat map for the land patent issued to James Morgan in 1874.

It also provides some interesting detail about the then current, and earlier shaft locations. It shows the Middle Bar Road running right along the base of the ravine as it heads towards the river. The hoisting works then lay to the west of the road, placing it up on the western hillside. North and south of the head frame we see the locations of two “old shafts.” These connect us back to the “old shaft” referenced earlier. Perhaps these were remnants from efforts by the previous owners. The 20-stamp mill is

right along the river, directly south of the mine, and the track way moved ore from the mine to the mill.

The dimensions of the main part of the property (ignoring the handle for the track way and mill) were 500 feet at its narrowest in the east-west direction, and almost 2200 feet in the north-south direction. Prior deeds give the northerly lode dimension as 1200 feet, which means the patent incorporated the land purchase made in Maria's name in 1868 just north of the mine.

Then suddenly, in August of 1874, the Hardenbergh house near the mine was destroyed by arson.³⁷ John Wetzler, fellow Middle Bar resident and miner (including brief work done for Hardenbergh as seen in the Casco receipt book), and apparently drunk at the time, got into an argument with some men who were residing at the Hardenbergh house. When ordered to leave, Wetzler threatened to get even. Five minutes later the men were shocked to find one corner of the house engulfed in flames, and Wetzler fleeing the scene. The house was completely burned. Wetzler was apprehended by the men and taken to the police in Jackson to be held for trial.

Let's return now to James Morgan. In February of 1875,³⁸ Morgan sold his now patented property back to James Hardenbergh for \$4000. So, after defaulting on a debt, Hardenbergh reclaims the mine he lost from his business partner who purchased it at the auction that was supposed to offset the original debt. The fact that Morgan, Hardenbergh's business partner, applied for the patent on a property still held in Hardenbergh's name prior to the auction makes me wonder if the default and sale had been a pre-conceived plan to evade the original debt.

Then in March of 1880,³⁹ James Hardenbergh sold everything to a George R. Wells of San Francisco for \$4000, the same price he purchased it for from Morgan in 1875. Five years later, on March 30, 1885, Hardenbergh passed away,⁴⁰ leaving his wife Maria and three children: Samuel Brush, Charles P and James R. (Jr.). After these events you would think the Hardenbergh era for this mine had come to a close, but records tell a different story. The Hardenbergh family remained connected to this mine, as their names continued to appear on property deeds and mining agreements until 1901.

Then, interestingly, and for no apparent reason, there appeared in 1885 a glowing description⁴¹ of the mine that is worth quoting in full:

The Hardenburgh [Hardenbergh] mine lies just above Middle Bar, with a 20-stamp mill at Middle Bar, which has been idle some years. From the men that worked in this mine I learn that no better mine is in this county if properly worked by capitalists...Good paying quartz was taken out of this mine from the very top all the way down to the 500-foot level, and it run from \$5 to \$10 and \$15 per ton. There is also a good water ditch of 1,000 or more miner's inches of water and two and one-half miles long, that belongs to this property, which is owned by General Hardenburgh, of San Francisco, California. Some of the \$60,000 has been taken out of this mine. The ledge runs from 5 to 30 or more feet in width, and there is at least a big fortune for the parties who will take hold of and develop and work this mine again, as it is considered by all who worked in it second to no quartz mine in Amador county today. I know of no better interest than this old Hardenburgh mine at Middle Bar, but I understand that General Hardenburgh does not intend himself to work it, though I believe he will sell it to parties who will work it in a proper manner, as half a million dollars of quartz is in sight to-day.

It reads more like an advertisement for potential buyers than a description of recent history, and perhaps it was. It would take another two years before anyone would bite.

San Francisco and Eastern Capitalist Years (1887-1892)

It is now 1887. Our mine has been sitting idle for at least twelve years, perhaps more. A patent turned it into private property that was briefly held by James Morgan, sold back to James Hardenbergh, who in turn sold it (before passing away in 1885) to George Wells.

This next period of activity suffers from a lack of definitive information about who bankrolled and managed the mine's operation. Because the land was patented, we have to follow two historical threads now – one for land ownership, and the other for the right to mine it. Going forward, these would be separate parties. It's possible that news reports may have confused the two, which only makes the job of reconstructing history more challenging.

We know that work started again at the end of 1889. So, let's look at the information we have leading up to that date and see what conclusions we can draw.

From April of 1887,⁴² we read:

It is reported, on good authority, that the Hardenburgh or Casco mine, at Middle Bar, has been sold to San Francisco parties, and that the south extension, owned by Mrs. Sargent, is also likely to be sold to the same parties...Some excellent rock was taken out in early days and if rumor can be relied upon, the cause of its abandonment was owing to poor management rather than the non-paying character of the ore.

Rumors and "good authority" are frequent sources of information for much of what is promoted as news today. Seems they were considered sufficient sources to use then, too. We can't be sure who these San Francisco parties were and we find no record of such a sale during this time. George Wells resided in San Francisco, but his deed was dated seven years prior to this article.

Then, nothing more, until this⁴³ in May of 1889:

There is again some talk of starting up the old Hardenburgh claim. The owners are disposed to sell it at a reasonable figure, from \$25,000 or \$30,000 it is reported. There is a large amount of water in the shaft, and it would take in the neighborhood of \$5000 to get the water out, so as to make an examination of the property possible.

Unfortunately, these articles are not very helpful. They are more likely reports of business conversations as opposed to actual transactions. We need to look elsewhere.

On June 15 of 1889,⁴⁴ we read something more substantive: "*We understand the Hardenburgh mine at Middle Bar has been bonded to the English company, operating the Morley and Wetzlar (sic) mine; it is also reported that the Amador Queen and Doyle properties are also under bonds to the same company.*"

In October of 1888, title for the Wetzler^k Quartz Mine was granted⁴⁵ to *The Morley Gold Mining Company, Ltd.*, of London, England. But then three months later, title transferred⁴⁶ to a Curtis G. Stoddart. Morley Gold Mining was then reported in the London press⁴⁷ to be in financial trouble, even though its name continued to be associated with that mine in the press⁴⁸ until April of 1890. Earlier in my research I had thought funding for this next period came from Morley Gold Mining. Now it seems doubtful this struggling English company was in any position to fund operations at the Hardenberg, and there are no records to connect the two. We need to continue our search.

On December 14 of 1889, we read the following entry from the *Mining and Scientific Press*:

The old Casco or Hardenburg mine at Middle Bar, which has lain idle so many years, is to be brought into activity again and worked on a large scale by a company of San Francisco and Eastern capitalists. In fact, we may say that work has already been commenced, as some of the machinery is already on the ground, and the necessary buildings will be put up as soon as the lumber can be delivered and the weather will permit. The work will be under the management of James Evans, a miner of many years' experience.

Then, just one week later,⁴⁹ we read:

It is reported that Hayward and Hobart are interested in operations at the Hardenburg mine, at Middle Bar. A short bond of the property has been secured, for the purpose of cleaning out the shaft and ascertaining whether the condition of affairs at the bottom as regards size and quality of rock is as reported; and if found to be as represented a large amount of money will be expended in its development.

Alvinza Hayward and Walter Hobart were partners, along with Charles Lane, in the hugely successful Utica Mine in Angels (now Angels Camp), Calaveras County. Hayward and Hobart had fingers into other mines in the area, so it is logical they would consider mines in Amador County also. The timing is right, since this is the month that work commenced, and perhaps they were the source of its initial restart.

Other than this one article, however, no other source I have found links any Utica Mining partners to the Hardenberg until the end of 1892, when Hayward and Lane dove in head first. Until then, reports of activity refer only to funding by “San Francisco and Eastern Capitalists.” Let’s look at some more info before we draw any final conclusions.

In October of 1891, an S. H. Howland obtained the water rights⁵⁰ to supply water to the Hardenberg mill. What do we know, then, about this Howland?

An article⁵¹ from 1893 refers to S. H. Howland as being “formerly of the Hardenburg or Casco mine”, indicating he worked it prior to that article. In 1893, he was president at the Gwinn Mine, on the other side of the Mokelumne River, in Calaveras County. The Gwinn was a reasonably successful mine, so this would make Howland a man of some mining resources. Further, this

^k The Wetzler mine was originally owned by John Wetzler, the same person who burned the Hardenbergh residence fifteen years earlier, and worked very briefly in the Hardenberg mine before that. The mining world in California was very small.

article described a trip he was on to present a proposal for the Gwinn to Boston financiers, who certainly match the “Eastern Capitalists” description. It also says he had worked with these people previously.

When Hayward signed his agreement to work the mine in December of 1892, the agreement referred to a \$5100 debt that Howland had left from work he had done. An article⁵² that same month tells us Hayward had negotiated a deal with Howland for his bond on the Hardenberg.

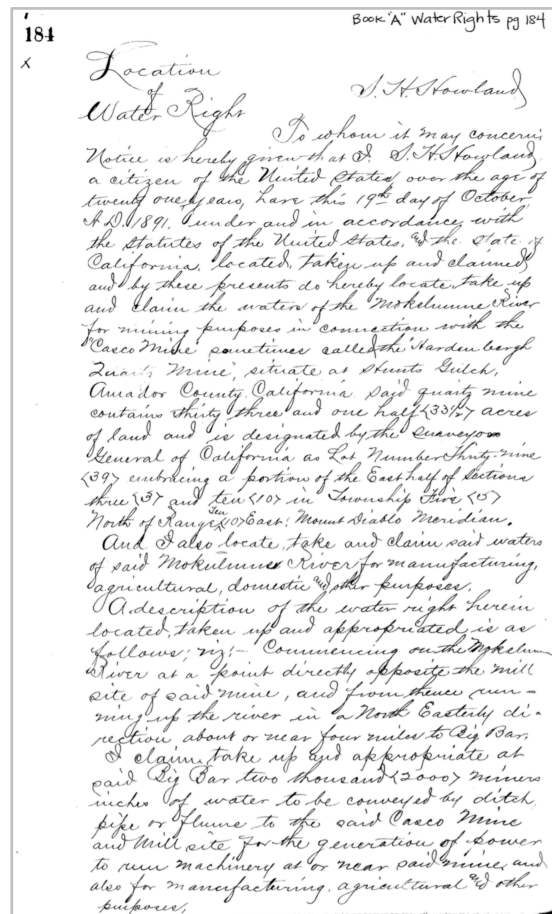
So S. H. Howland certainly was in charge of work on this mine prior to Hayward and Lane’s major investment in 1892, and he had access to eastern capital. We don’t know under which company name he did this work, or specifically when he started. Was it at the end of 1889, or did he take over later from someone else – perhaps after a short bond by Hayward and Hobart? Until I find information to the contrary, my conclusion for now is that Howland was the one who worked the mine from 1889 to 1892.

We do know that work began in earnest at the end of 1889. As we read earlier, it was under the management of James Evans, former underground foreman at the Mahoney Mine in Sutter Creek.⁵³ Interestingly, a James Evans also appears once in the Casco Mining Co. receipt book as a onetime laborer. Was this the same person, now twenty years later?

By April of 1890, they completed installation of a new hoisting works, and began draining water from the mine.⁵⁴ It would take until December to complete this arduous task.⁵⁵ They put new timbers in the shaft, and constructed a network of ditches and reservoirs to channel and store water needed to power the equipment from the Amador Canal.⁵⁶

In February of 1891, they sent test ore to the mill at the Amador Gold Mine.⁵⁷ The results were promising enough to warrant blasting of tunnels, or drifts, away from the shaft. They also got their own mill up and running which created some excitement in the press.⁵⁸

Reports conflict on the nature of the mill they put in place. Some state it was a new one of either ten or twenty stamp capacity. Another reports⁵⁹ they moved the previous Hardenberg mill from the bank of the river closer to the mine. Regardless of the configuration, by April they were ready to put it to the test and directed water into the newly laid pipes. Suddenly, the pipes burst in several places, sending water in all directions.⁶⁰ They had tried to save money by



S. H. Howland Location of Water Rights, courtesy of Amador County Records Department.

securing used piping that was clearly not up to the task. This mishap would set back operation for weeks. They contracted with C. O. Mitchell of Sutter Creek for new pipes and by June, it was up and running steadily,⁶¹ at least for the next few months.

Work continued into 1892 in drifts at the 500-foot level, where they extracted promising ore.⁶² In June, it was decided to sink the shaft 200-feet deeper.⁶³

The eleventh report of the state mineralogist, dated September 15, 1892, gave great detail on the configuration of the ore processing equipment, the layout of drifts, and description of ore extraction done at the 75-, 200-, 300-, 400-, and 600-foot levels. It was an impressive enough operation to attract attention from other interested parties.

Hayward and Lane Years¹ (1893-1896)

From 1889 through the end of 1892, funding from “San Francisco and eastern capitalists” led by S. H. Howland drove a period of renewed activity on the Hardenberg mine. At the end of 1892, we read⁶⁴ *“some fine ore has been taken out, but the ledge is small, and it is now necessary to go deeper, the expense of which is too heavy for those who have been operating the property for the past two years.”* A later state report⁶⁵ gives further insight on the poor results, telling us that during 1892, the mine produced a meager \$23,500 from between the 300- and 600-foot levels. That’s not enough to cover expenses.

In December of 1892, mining millionaire Alvinza Hayward inked an agreement⁶⁶ with George Wells, who had legal authority to grant rights for use of the property. The agreement gave Hayward the right to mine for one year, at his expense. He also had the right to purchase it at any time during that year at the pre-agreed price of \$30,000. It also set terms for him to assume responsibility to pay off the \$5100 debt left by Howland. A notarized statement was appended from Maria Hardenbergh, now a widow living in Minnesota, that gave her approval for the terms of the agreement. Interestingly, her statement described her as *“owner of the equitable title in and to the mine property.”* Somehow, the mine stayed in the family, even after it’s apparent sale to Wells in 1880.

Hayward now intended to invest considerable resources to work the mine.⁶⁷ Charles Lane, his partner, was given oversight responsibility. Fred J. Martin, also from the Utica Mining Co., was put in charge of the operations.⁶⁸

By early 1893, the work began. They quickly awarded a contract to Knight & Co. in Sutter Creek, to replace the hoisting works.⁶⁹ They had to pump water out and repair a cave-in before they could sink the shaft deeper.⁷⁰

It only took a couple of months with full access to the mine for Hayward to rethink his agreement with Wells. On March 1st it was updated,⁷¹ extending the work and purchase period out one more year. The purchase price was reduced to \$15,000, and the terms for paying down

¹ It is from this period of time that I have been lucky enough to secure a considerable collection of original letters and financial statements.

the Howland debt were restructured. A notarized statement from Maria Hardenbergh again gave her approval.

In April, they filed an application for a post office.⁷² That office, the only to ever exist in Middle Bar, would operate under the *Hardenburg* name from 1893 to 1896, the years that Hayward and Lane actively operated the mine.

Additional deed activity occurred in parallel with the mining. In May of 1893, the three Hardenbergh children, Samuel Brush, Charles P. and James R., deeded⁷³ the mine to George Wells. Two months later, Samuel and Charles, this time without James, appear to again deed⁷⁴ the property to Wells. How many times can the Hardenberghs sell this property? It wouldn't be the last. The second of the two deeds was filed immediately with county records at the request of Hayward. It's possible that the record of the first deed may have been misplaced, as it wasn't filed with the county until nine years later. If so, that might explain why they generated the second one.

Meanwhile, back at the mine, Hayward and Lane encountered the same problems that had beset its prior owners. A handwritten letter from Martin to Lane dated May 5, 1893 (in author's collection), reveals the kind of behind-the-scene details that weren't often revealed to local reporters:

"...it seems impossible for Mr. Fuller to make more than a foot and a half per day. This was a heavy month on expenses – where would a poor devil be to open a mine like this. No wonder Mr. Howland busted. It scares me to think of it..."

Heavy expenses, slow progress, and reference to S. H. Howland's prior failure – in spite of these concerns, they continued to sink deeper. In January of 1894, we read:⁷⁵

The Hardenburg mine, which was on the verge of shutting down upon the 1st of December, did not do so, and since that time has encountered the much sought-for ledge in north drift at the 800 foot level. For some weeks they have been following up the ledge which they first struck as a small stringer, and now it is between seven and eight feet in width.

Almost shut down? It's an unusual public admission that owners were on the verge of throwing in the towel. But once again, our mine flirted with its suitors, dangling estimates of \$40 per ton of ore in waiting. Hayward and Lane took the bait. They immediately decided to upgrade their hoisting machinery and install more ore processing equipment.⁷⁶ They dug out a reservoir for water above the mine⁷⁷ to power their machinery. They also continued to sink deeper. By October they reached a depth of 1000-feet and yet another promising find.

Alas, these promises would be fleeting. They sent gold for assay to the Selby Smelting and Lead Company in San Francisco. I have three assay reports from 1894, dated June, October and December. Net value of gold and silver was around \$2400 for each report. I also have some monthly accounting sheets from 1894 and 1895 that detail wages and mining expenses ranging from \$1800 to \$2000 per month. If the assay reports represent the total amount of gold extracted in a particular month, then they were barely covering expenses.

Additional assays I have for early 1895 were only slightly higher, reaching \$3600 for one dated in April. But it was still not enough to warrant further investment. In May, all work at the mine was stopped⁷⁸ and they started selling off the equipment. Timbers were sold to the Gwinn Mine in

Calaveras County.⁷⁹ The Mechanics Mine in Sutter Creek purchased and hauled off the mill.⁸⁰

(No. 4 A 50 M. 11-25062)

Memorandum of Gold Bullion deposited with SELBY SMELTING & LEAD CO. for Refining.

San Francisco, April 9 1895 Office, 416 Montgomery Street. *By HARTENBERG MINE*

NO. OF DEPOSIT.	WEIGHT.		GOLD.		SILVER.		CHARGES.		NET VALUE.	
	Before Melting	After Melting	Finesness	Value	Finesness	Value	DOLLARS.	CTS.	DOLLARS.	CTS.
3473	220.00	224.75 739 1/4	355	35.556	240	35.38	12.45		36.094	
<i>Ans Pump</i>										

April 1895 assay statement from Selby Smelting and Lead, possibly the last before Hayward and Lane decided to shut down. From author's collection.

Years later, we read the dismal account of the real output of this mine:⁸¹ *"In 1892, \$23,500 was produced between the 300-ft. and 600-ft. levels, and in 1894, when work had reached the 800-ft. level \$12,002 more was taken out. Work stopped*

in 1895 at a depth of 1000 ft. The last ore milled in 1895 averaged \$4.19 a ton." This was below a yield typically considered profitable for operating a mine, and a far cry from the \$40 estimate. Stripped of its key machinery, our mine went back into dormancy, to await another suitor. It would take fifteen years before one would arrive.

Martin and Malloch Years (1910-1916)

The Hardenberg entered its second major period of inactivity in 1895. While idle, deed activity on the property continued. Maria Hardenbergh deeded⁸² the property to Kate H. Wells in 1901. Six months later, Maria Hardenbergh passed away. In July of 1902, George Wells deeded⁸³ the property to Kate Wells. Why did she have to get it twice? Making sense of deed history is not an easy task. Regardless, ownership of the property was fully controlled by Kate Wells, thereby ending the era of the Hardenbergs.

The following month⁸⁴ Kate sold off the original mill site to Julia E. Sargent. We have already met the Sargents who were longtime residents of Middle Bar. As you may recall, they owned the mining claim between the Hardenberg and the Mokelumne River since the 1850s, one that was referenced in many of the early Hardenberg deeds. The Hardenberg mill site and track way that formed the panhandle of the property as described in the 1874 patent, ran right through the Sargent claim. This transaction gave Julia unbroken ownership of all the land within the family parcel for the first time. That same month, Sargent also submitted to county records the first of the two deeds from 1893 described earlier, that recorded the transfer from the Hardenbergh children to George Wells. She was probably trying to validate the chain of ownership based on records she had access to.

During this period, a report⁸⁵ was published that profiled characteristics of mines along the length of the Mother Lode Belt. For the Middle Bar Region where our mine resides, it described the crushed and ground-up rock that often infiltrated quartz veins, and referenced our mine as

an example. Most notable in the report is this comment “*although gold occurs in these large veins, no remunerative mine has yet been developed there.*” True so far, but that word “yet” would become an irresistible challenge, waiting for someone to take it on.

Henry Malloch, then president of the *South Eureka Mining Company* in Sutter Creek, had just recently turned that mine from a decades-old disappointment into a respectable, paying venture.⁸⁶ His success there helped fuel a renewal of mining investments in dormant mines in the region. It certainly encouraged him to take on the challenge of the Hardenberg, as well as the Oneida, a mine to the north, near Jackson. Together with his working partner John Martin, they took out a bond on the Hardenberg from its current owner, Kate Wells. They also made a deal⁸⁷ to access the Littlefield Claim, an adjoining property to the east. In November of 1910, they started work.⁸⁸

Their approach would be different. First, they wanted to avoid the well-known gouge of fractured rock that had plagued prior attempts on the west side of the vein. Instead they decided to sink an entirely new, vertical shaft, that would approach the vein from the east side. They would do this from the Littlefield property.⁸⁹ In addition, the older shaft was closed, making it impossible to enter.

Second, they had access to new technological options. The recently formed Pacific Gas & Electric Company had a power generating plant at Electra, upstream from the Hardenberg on the Mokelumne River. In March of 1911, PG&E extended electrical lines out to the Middle Bar region to power the electrical equipment this mine would use,⁹⁰ eliminating the need for water power.

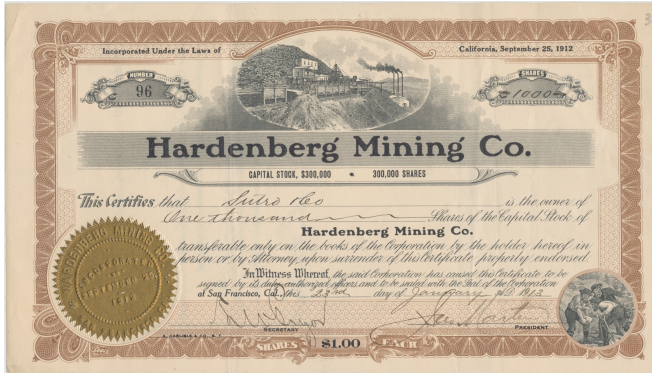
In May of 1911, three 8-hour shifts were working round-the-clock at sinking the new shaft.⁹¹ By July of 1912, they reached over 1000-feet in depth⁹² and began crosscutting at this level westward toward the vein.⁹³ The September 30 issue of the *Sacramento Union* bugled another promising story for the mine, and the whole Middle Bar region:

A development of great importance to the entire section between Jackson and the river has just been made in the Hardenburg mine in the west cross-cut from the 1000-foot level. They have so far opened up six feet of milling ore for a distance of 60 feet, and the ledge gives every indication of permanence. During the week, Henry Malloch, John Martin and L. W. Prior visited the property and these heavily interested parties are so well pleased with conditions at the mine that a 20-stamp mill will be started in the near future. Other mining enterprises in the vicinity will now be pushed with renewed vigor as the Hardenburg work has proved the possibilities of the comparatively unprospected ground in that part of the county, and there is every reason to believe that the territory will now be given the investigation it deserves.

PLACING MACHINERY AT THE HARDENBURG MINE

The concrete foundations for the motors and compressor at the Hardenburg mine were completed last week. The gallows frame is up and the engine is in place but a number of important parts are being replaced at Knight's foundry. The engine room is of ample size, 38x48 feet, and of iron. Everything about the mine is of the most substantial character. The power of course will be electricity, and a transformer house 16x20 is awaiting the installation of the instruments and apparatus. It is not expected that underground work will be resumed until about March 1st next. However, there is nothing to keep them back except the placing of the machinery, and in a few weeks all will be in readiness for sinking operations. The shaft is down but 30 feet. V. S. Garbarini has had charge of all the surface work and the name is a sufficient guarantee that nothing has been slighted.

Front page article from the
Amador Dispatch, January 13, 1911



Hardenberg Mining Co. stock certificate for 1912 incorporation. From the author's collection.

On September 23, Martin, Malloch and three others incorporated the Hardenberg Mining Company, issuing \$300,000 worth of stock at \$1.00 per share. N. S. Kelsey of Jackson was the superintendent.^m

Assays of their find averaged \$5.58 per ton.⁹⁴ This is still low, but in November they started pouring the concrete foundation for the new mill.⁹⁵ They contracted Knight & Co. to build it. It would begin processing ore taken from the 800- and 1000-foot levels in

February of 1913.⁹⁶ During this year they would also go through a string of superintendents. N. S. Kelsey was followed by a Mr. Bryant, then H. R. Drullard. By August it was W. H. Schmal, who came with prior successful experience as superintendent of both the South Eureka and Oneida Mines on his resume.⁹⁷

Glowing reports about the mine flowed from the local press. During the year, they constructed an on-site office, changing room, and installed a rock crusher, all on the Littlefield property.⁹⁸ Tons of ore was piled on the ground while the mill operated at full capacity. The owners considered sinking the shaft deeper.⁹⁹

Then in September of 1913, news turned¹⁰⁰ at the reappearance of an old nemesis: *"The drifts are in swelling ground and are said to be giving some trouble, and may necessitate the exploration of new ground."* They had encountered the very thing they tried to avoid by sinking on the opposite side of the vein! This must have been a disappointing blow.



Foundation of the hoisting works built by Martin and Malloch. Photo by author, site access courtesy of EBMUD.

After this, news about further activity grew thin. In March of 1914, consultants were brought in to examine the mine.¹⁰¹ In July, they were crosscutting to discover new ore shoots.¹⁰² A rumor circulated the mine was up for sale, but it was quickly denied.¹⁰³

Then, in August of 1914, we read:¹⁰⁴

A thorough survey of this property is being made, both surface and underground works. What this is for we do not know, unless for keeping a record of all working for future reference. It is not

^m By 1914, Kelsey would also become the general manager of the Argonaut Mine in Jackson.

likely that the mine will start again under the old management. The funds for development work are not available, and while it is claimed the ore is of fair grade, the ore developed is not sufficient to keep the stamps dropping. More development work is needed, and this the managers are not in a position to undertake at present.

Clearly Martin and Malloch were losing interest in the Hardenberg as they turned their attention back toward the South Eureka, which at the time was showing greater success. Their work on the Hardenberg was later summarized¹⁰⁵ as follows:

In April, 1911, the stockholders of the South Eureka Mining Company began reopening and sank a vertical shaft 1100 ft. deep and in 1913 and 1914 reported production of 26,478 tons which yielded \$65,970 or \$2.49 a ton, principally from the 850-ft. and 1000-ft. levels. The ground was found to be heavy, badly shattered and with a wide gouge on the black slate footwall.

New money, new techniques and new strategies were not enough to overcome the inherent problems of mining in this region. Another article¹⁰⁶ written closer to the time, gave this summary:

Between February 1, 1913, and 1914 records show that 26,475 tons yielded \$57,029 by amalgamation and \$5941 by concentration. The Hardenberg company made no profit, but opened a shoot that assayed \$6.10 per ton. Physical conditions were not suitable for economic mining and the ore was not mined clean. Machinery installed is worth over \$15,000, and permanent improvements cost over \$30,000.

These are far from successful results by either account, so it is no wonder that by April of 1915, they stopped all work on the mine and allowed it to fill with water.¹⁰⁷ That same month, multiple attachments for past due amounts were filed against the company, and also personally against both Martin and Malloch. The company was deeply in debt, and in June they proposed a plan to pay it off.¹⁰⁸ A six-month agreement was reached with their creditors, and with Kate Wells. Company holdings (including the Littlefield claim¹⁰⁹) were turned over to C. L. Culbert of the Bank of Amador County as trustee¹¹⁰ to manage the debt.

Then in November, it appeared that a bond was taken out on the property but details are unclear as we know of no further activity that resulted.¹¹¹ The mine would go idle once again, but for a briefer period of time.

The Final Years – Parks, Loring, and Beyond (1916-1918+)

The Hardenberg Mine was now filling with water as mines do when they are not under active management. In April of 1916, there was news¹¹² that a New York firm was ready to invest. This group would include well known men from the *Plymouth Consolidated Mine*, specifically James F. Parks, and William J. Loring. Following great success at the Plymouth, they were in a period of business expansion, taking over additional mining operations in Amador, Calaveras and Tuolumne Counties. The Hardenberg would be one of them.

Loring signed an agreement¹¹³ with Kate Wells on August 15, 1916. It permitted him to examine the mine for three months starting September 1st, with an option to purchase for \$16,000 by

December 1, 1917. It specified a minimum amount of work to be done, including sinking the shaft on the Littlefield Claim an additional 200 feet and crosscutting to the vein from there. The agreement also gave Loring right to use the machinery that was left on site by Martin and Malloch.¹¹⁴

Money to fund operations at the Plymouth Consolidated had come from Bewick, Moreing & Co., of London. Because of World War I, British capital was harder to come by for investment in western mining.¹¹⁵ Their work at the Hardenberg would be managed under a separately formed company called the *Hardenberg Mining Syndicate*, located in San Francisco.¹¹⁶ Parks took the role of Superintendent,¹¹⁷ while Loring was in charge of the day-to-day operations. The Amador County Archives has almost complete financial records of their operations from September, 1916, to April of 1918.¹¹⁸ The information we don't have is anything regarding gold output and assays.

A typewritten letter¹¹⁹ dated September 12, 1916, was signed JFP (for James F. Parks). The first page is missing so we don't know to whom this letter was addressed, though I believe Loring would be a safe bet. One of the topics of the letter was titled the *Hardenburg*, where it states:

I note what you have to say with reference to the Hardenburg [sic] proposition and hope that you can make some arrangement with Mr. Burchⁿ for me to look after the work for you, as I feel that I could give you as good a results as you could from anyone else, by placing a good foreman there. We could also do the office work and assaying here which would save quite a little and I know that you would be pleased with Mr. Beesley's^o work.

If you will remember the day we were there Mr. Mallock [sic] said that you would have to have a new hoist cable before starting to bail water. It might be advisable if you intend to start work there soon, to place your order with Roebling so that you will have the cables on time.

Capital expenses began in September, and the machinery was restarted in October.¹²⁰ They installed new hoist cable, purchased from John A. Roebling & Sons as suggested by Parks. They also started to dewater and repair the mine. In January they installed a new pump¹²¹ and by February the mine was cleared down to 1100-feet.¹²² The goal now was to go 300 feet deeper,¹²³ which would more than satisfy the contractually required minimum of 200 feet.

The Amador Archives has a report¹²⁴ written by Oscar H. Hershey and addressed to Loring dated May 27, 1917. Hershey and Parks inspected the work at the new 1330-foot level. He noted the same "gougy" conditions that had always plagued this mine. The vein they encountered showed every promise for yielding gold, and yet it assayed at less than one dollar per ton (except for one location that assayed at six). He offered an explanation as to why it might not be yielding any better. It would become yet another alluring promise to continue work:

As to why it is not, I can only offer the same explanation that I did in my original report, namely, that it is rather a common feature of Mother Lode veins to have low-grade belts. Mining operations were sometimes terminated when a low-grade belt was reached and subsequently

ⁿ Assuming this is Albert Burch, based on various items in Amador County Archives. He was a mining engineer with the Plymouth Consolidated.

^o C. H. Beesley was bookkeeper for the Plymouth Consolidated at the time.

other bodies of good ore found deeper. I can only suppose that you are digging in one of those relatively barren zones and that greater depth will bring improvement.

Loring was convinced that digging deeper would pay off. He told the press this in August,¹²⁵ shortly after reaching the 1500-foot level. In September his suspicions seemed to play out in the news:¹²⁶ *“A rich strike in the Hardenburg [sic] mine on the Mokelumne river, south of Jackson, is reported during the week. The find was made on the 1500-ft. level in the north drift, the assays from a well-defined vein ranging from \$16 to \$7600 per ton in gold.”*

News like this was certain to draw attention, but the excitement was short-lived. At the start of the very next month, we read:¹²⁷

Failure to find enough ore to justify further expenditure is the reason the W. J. Loring company has discontinued operations under its option at the Hardenburg [sic] mine, south of Jackson. The property reverts to the former owners, who are the same men interested in the South Eureka property at Sutter Creek.” That would be Martin and Malloch. *“The rich find reported in the Hardenburg mine recently proved to be only a small pocket. Large low-grade orebodies are in sight, but the cost of handling them under present conditions is prohibitive.*

It was now October, and Loring was nearing the contracted decision point on whether to exercise his option to purchase the property. He had invested \$62,000 over a period of 14 months and the return did not justify continuing operation. The cost of mining materials was on the rise, and cheap labor was no longer abundant. As a result, many mines that had been operating on thin margins were being shut down.¹²⁸ The Hardenberg would be one of them. The rights to the mill and mining equipment were returned to C.L. Culbert on October 19,¹²⁹ and by November of 1917, the mine was completely shut down for the final time.¹³⁰

There were many pieces of this operation to dispose of – the Hardenberg property, the Littlefield claim, and mining equipment that was present from before Martin and Malloch, and plenty of equipment added since. A trustee sale took place at the Jackson courthouse in February of 1918.¹³¹ John Doman^p purchased title to the Littlefield claim for \$10,000 from C. L. Culbert. Culbert was still acting as trustee for the creditors of the Hardenburg Mining Company formed by Martin and Malloch. He used \$2500 from that to purchase¹³² the right to the mining equipment and improvements on both properties added by Malloch and Loring, and was allowed to leave it there for \$1 per month rent.

In June of 1918, Doman purchased¹³³ the Hardenberg property from Kate Wells. In September, Culbert purchased the rights to all of the mining equipment on the Littlefield property. Apparently, this was needed to ensure there were no loose ends for title to any equipment or improvements. That same month, John Doman obtained a quit-claim deed¹³⁴ on the Littlefield land, plus rights to use the official Mineral Survey documentation of the same in order to file for a U.S. patent on the land. The quit claim deed was from Henry Malloch and his wife Ella. Doman was granted his patent in December of 1929.¹³⁵

^p The name J. Doman appears on a February 1895 timesheet, during the time Hayward and Lane were in charge of the mine. Is John then the same person, an offspring, or just a coincidence? See also Appendix B.

In parallel, equipment from the mine was being sold off. In June of 1918, the hoist motor was sold for use in constructing the Hetch-Hetchy reservoir.¹³⁶ A letter from the Keystone Mines to Doman, dated July 30, 1919,¹³⁷ makes an offer to purchase some metalwork on the head frame. In 1921, the Triple Lode Mining Co. at Angel's Camp purchased the Hardenberg mill.¹³⁸

In January of 1925, Doman sold¹³⁹ both the Hardenberg and Littlefield properties to William McGee. McGee had been involved in transactions on these assets since 1918, where he was the recipient of a letter from Culbert¹⁴⁰ that detailed trustee expenses incurred. William, and later Ralph McGee would be the holders of this property for quite some time. Today, they are owned by the East Bay Municipal Utility District (EBMUD), as is much of the land around Middle Bar.

Finally in August of 1927, a major grass fire would consume over 5500 acres of land around Middle Bar.¹⁴¹ It started in a building of the nearby Mammoth Mine, and quickly got out of control. In spite of the best efforts of over 100 people, the fire would burn away many structures in the area, including those of the Hardenberg: the head frame, change house, timber shed and a dwelling house. The only remaining signs of mining would be the concrete foundations and tailings that still exist today.

Our mine's numerous documented failings didn't stop others from wanting to give it a go. There was a report of once again reopening the mine in April of 1922.¹⁴² In 1934, an Edward Thornton from Los Angeles wrote a letter addressed to William and Ralph McGee,¹⁴³ expressing his interest to "*acquire a good mining property*". As far as I can tell, none of these ever went further than the papers that recorded the interest.



Author's photo of a portion of the Martin and Malloch-built mill site that is partly visible from Middle Bar Road.

Someday, when you are driving south on Highway 49 out of Jackson, look for the sign that points to Middle Bar. This single-lane road will eventually take you to the Middle Bar Bridge. The last gulch you pass through before the road bends west along the Mokelumne River toward the bridge is the area that was once the Hardenberg Mine. It is private property and fenced, so do not try to get closer without first seeking permission. I am grateful to Kent Lambert who granted

access and to Scott Werner (both of EBMUD) who escorted me onto the site to photograph the remains.

While in that gulch, look carefully to the east. It will be easier if you get out of your car and walk along the road. Up against the hillside, and surrounded by trees, you will see old concrete walls and pillars. Aerial imagery also shows this, see photo, next page. This is part the foundation of the mill constructed by Martin and Malloch in November of 1912.

In the aerial view, at the top of the hill, right above the mill, we see the pillars for the hoisting works (see also earlier close up photo), the shaft site, and tailings, all from work done first by Martin and Malloch, and later by Loring. These are on land that we now know was the Littlefield Claim.



Google Earth view of Hardenbergh Mine site showing mine features.

Work done by Hardenbergh, Howland, and then Hayward and Lane all occurred on the west

side of the road you are on but are barely visible from the road, and only if you know exactly what to look for. Perhaps in the future I can get escorted again by EBMUD to explore those areas too.

Our story is far from complete. There are still some gaps and unanswered questions that, over time, may get filled in by further research or additional documentation. Perhaps a reader of this report will have missing pieces to share.

Two thousand and eighteen marked the one-hundred-year anniversary of the Loring and Parks sale of the Hardenbergh Mine that closed the story of its active operation. Let's remember the many people who tried and failed, who were employed and let go, and who recorded and reported on it so that we can now preserve its memory in greater detail. And perhaps we can now add the Hardenbergh – named in honor of an original and great California pioneer who worked it – to our collective consciousness of Amador County mines.

Appendix A – Laborers and Wages for Casco Mining Company

The Casco Mining Co. receipt book in the Amador County Archives is a source of great information on the laborers and monthly expenses under Hardenbergh and Haley, from April 1868 through December 1869. Below is a list of the names of laborers contained in the book (that were readable from the handwriting).

Bales, James	Evans, James	Rechenbach, F.
Bales, John	Ginn, James M.	Robinson, G. F.
Bales, William	Hagemann, John	Russell, William
Baliss, Antoni F.	Harrel, William	Samuel, J. C.
Berttrel, A.	Hartman, J. R.	Schlarbauer, T. Jr.
Besom Joseph	Holtz, H.	Schleyers, Frank S.
Boyd, Charles E.	Janpens, J. A.	Slye, Nathan F.
Bristura, Wm	Jenks, Nilson B.	Stanslich, Michiel
Brown, Ward	Keehe?, John	Stewart, William
Brown, William	Lawless, James	Terrail, L.
Cherantor, J. L.	Macy, Albert	Thompson, William H.
Colby, A. J.	Main, Thomas R.	Thomsen, Peter
Coombs, William	Malloy, L.	Van Buren, H.
Cramer, Philip	McFadden, John J.	Van Buren, M.
Crosby, John	McKean, William	Verdier, Pierre
Deabek, F.	McLane, Westin	Wetzler, John
Demange	Owens, W. W.	Woods, George H.
Douglass, J. T.	Peterson, John	

The table below and on the next page groups monthly expenses under the categories of *Labor*, *Freight*, *Wood*, *Food* and *Other*. The expenses recorded in the book total \$9574.33.

Mo / Year	Labor	Freight	Wood	Food	Other	Monthly Total
4/1868	\$97.00	\$50.50				\$147.50
5/1868	\$712.18	\$21.50	\$400.00			\$1,133.68
6/1868	\$248.73		\$200.00	\$16.75	\$27.60	\$493.08
7/1868	\$156.96		\$45.00	\$42.50		\$244.46
8/1868	\$93.63	\$89.15	\$196.20		\$24.00	\$402.98
9/1868	\$21.73	\$28.50	\$100.00		\$144.50	\$294.73
10/1868	\$216.02	\$398.50	\$200.00	\$157.06		\$971.58
11/1868	\$605.98				\$348.25	\$954.23
12/1868	\$925.97			\$200.00		\$1,125.97
1/1869	\$374.03			\$200.00	\$88.00	\$662.03
2/1869	\$475.21	\$24.25				\$499.46
3/1869	\$156.59		\$651.38			\$807.97
4/1869	\$557.14	\$28.88			\$32.00	\$618.02
5/1869	\$207.33					\$207.33
6/1869						
7/1869	\$120.50					\$120.50
8/1869	\$18.75					\$18.75
9/1869	\$637.25					\$637.25

Mo / Year	Labor	Freight	Wood	Food	Other	Monthly Total
10/1869						
11/1869						
12/1869	\$234.91					\$234.91
Totals	\$5,859.91	\$641.28	\$1,792.58	\$616.31	\$664.35	\$9,574.43
% of Total	61%	7%	19%	6%	7%	
Avg / Mo	\$325.55	\$35.63	\$99.59	\$34.24	\$36.91	\$531.91

The **% of Total** row indicates what percent the specific column total is of the total expenses. Capital equipment costs were not captured in this book.

Appendix B – Laborers and Wages under Hayward and Lane, 1893 - 1895

Position	Daily Wage
Blacksmith	\$3.00
Brakeman	\$3.00
Carman	\$2.00-\$2.50
Carpenter	\$3.00
Engineer	\$3.00
Foreman	\$3.50
Millman	\$3.50
Miner	\$2.50-\$3.25
Pole Cutter	\$2.50
Repairer	\$3.00
Shaftman	\$2.75
Timberman	\$2.50
Water Tender	\$2.25-\$2.50
Winze Engineer	\$2.50

I have four monthly time and expense reports filed by Fred J. Martin during the Hayward and Lane period. They reveal some interesting facts that are worth reviewing.

First, we see the daily wages paid for the positions required to operate a mine during the mid 1890s (see table to the left). Foreman and millman were paid the highest wages while a carman received the lowest.

The tables below and next page are a compilation of the detail from each report. First, we see the names of the laborers for anyone interested in genealogy. We see *J. Doman* as a worker for the month of February, 1895. Could this be the John Doman that purchased the mine in 1918? It's an intriguing thought. Family names of local fame also

appear, including *Cuneo*, *Provis* and *Turner*.

We also see the number of days worked each month. Note there were some that worked every day of the month, without a break. It further tells us how many men were employed for any given month, which were employed long term, and which came and went. A note on the page for August 1893 tells us *J. Cushey* was fired. *M. Cushey*, which I assume to be his brother, continued to work into 1895.

Worker	Position	Days Worked			
		July 1893	August 1893	March 1894	Feb 1895
Albers, G.	Foreman	31	31	31	28
Ames, J.	Miner	14	27		
Angove, D.	Miner		31		
Angove, R.	Miner	21			
Artema, E.	Miner				26
Babtiste, J.	Miner				15
Balbery, A.	Miner				1.5
Bean, J.	Miner	8	31		
Belluomini, J.	Carman				7
Belluomini, R.	Miner 3/94; Carman 2/95			29.5	28
Belluomini, V.	Carman				24.5
Billings, D.	Miner		1		
Boitano, J.	Miner	29	29		28
Brown	Fixed Tunnels, Cut Poles	3			
Brown, E. B.	Brakeman; Engineer 2/95	31	31	31	28
Brown, J.	Miner			22.66	21
Bunti, G.	Miner				3
Constantine, J.	Winze Engineer				28
Courtmarsh, F.	Miner			28.33	
Cuneo, A.	Miner				5.5

Worker	Position	Days Worked			
		July 1893	August 1893	March 1894	Feb 1895
Cushey, J.	Miner (fired 8/93)	29	21		
Cushey, M.	Water Tender & Miner	30	12	22.5	24.5
Delray, E.	Miner				4
DeMartini, F.	Miner	16			
Dion, E. C.	Miner				6
Doman, J.	Millman				28
Driscoll, M.	Miner			2	
Earl, H. F.	Brakeman; Engineer 2/95	31	31	31	28
Fregulia, T.	Miner	24	25		
Fuller, W.	Night Carman; Cut Poles & Grade	30	31	19.5	28.25
Grasse, P.	Miner				10
Horn, J.	Miner				6
Hultado, M.	Miner	30	23		
Johnson, C.	Miner			9	
Jose, J.	Miner			29.5	
Lazurine, D.	Miner				3
Manasuro, V.	Miner				5.5
Martin, C. J.	Miner	31	31	30.5	23
Martini, R.	Water Tender 7/93; Night Carman	30	28	31	
Masori, L.	Carman				16.5
Mello, J.	Carpenter 7/93; Timberman 2/95	1			24
Mitchell, J.	Miner			29.5	
Morrison, G.	Miner				5
Murphy, D.	Blacksmith	30	31	30.33	27.33
O'Freddie	Miner			25	
Olmstead, B.	Cut Poles		7		
Piro, F.	Miner				3.5
Poggie, L.	Repairer				28
Provis, W.	Winze Engineer				11.5
Questo, A.	Miner	13			
Radanovich, J.	Repairer & Miner				27.5
Radovich, C.	Miner				10
Rafanto, V.	Miner				25
Rossi, D.	Miner	3			
Savsich, O.	Miner				22.5
Shaw, F.	Carman				28.5
Simpson, E. L.	Millman				28
Tela, M.	Miner	31	26.5		
Tischer / Tischey, Al	Water Tender	7	20		
Traversa, M.	Miner			27	
Turner, J.	Miner			9	
Velasco, T.	Miner				26.5
Vivoric, L.	Miner				15
White, F.	Carman				2

Appendix C – Laborers and Mining Expenses under Parks and Loring, 1916-1917

The Amador County Archives has a wealth of records of operations by James F. Parks and William Loring. First and below is a list of laborers that received at least one paycheck during that time. A summary of monthly expenses is presented in the table on the next page.

Amornia, J.	Frediani, A.	<u>Lee, William G.</u>
Arrojo, Tony	Frediani, P.	Levis, F.
Barballata, L.	Fregulia, Ben H.	Lucas, H.
Beeman, Joe	Fregulia, George	Maylone, Fred
Belmont, A.	Fuller, J or F	Maylone, Louis
Bennoti, Steve	Gabberts, A.	Maylone, Earl
Berrie, M.	Gales, R.	Maylone, G.
Blum, E.	Gall, Dr. A.M.	McKinney, Charles A. (H?)
Boitano, A. (Angelo?)	Gall, F.	Mallen, Matt
Boitano, J. (Joseph or John?)	Gaicelles? George	Morrow, C.
Boitano, Walter	Gianetti, S.	Murphy, H.
Bolanda, John	Giolo? Frank	Ninnis, Jabez, (Jr.?)
Borreie, P.	Gionnini, D.	Northcott, George
Brown, Ike	Ginini, E.	Pac Tel & Tel Co.
Brown, William A.	Grandone, Frank	Pedra, A.
Burke, J. F.	Grandone, J. (James?)	Pelligri, S.
Chaplin?, H.	Grandone, S.	Prata, F.
Chin? William / Bill	Grandone, Tony	Roberts, A.
Churich, B.	Garavanta, A.	Rouck, Harley
Churich, M.	Garavanta, F. (Frank?)	Rountree, C. H.
Cook, J.	Garavanta, J. (John?)	Sabina, A.
Corbett, William	Garavanta, P.	Sala, T.
Curley, D.	Garavanta, R.	Sanders, M.R.
Curley, E.	Garavanta, Tom or Tony	Sargent, J.
Daniels, L?	Garvey, E. E.	Sargent, Robert
Dapoli, Mrs.	Gazzone, C.	Sleaks, M.
Dapoli, John	Gilbert, S.	Smith, Frank
<u>Defelippi, A.</u>	Gonzales, Steve	Spagalone, J.
Denney, J. H.	Gonzales, G.	Squellati, N.
Dewitt, John. H.	Guricich?, Sam	Squalletta, M.
Donelson, T. M.	Ireland, Bert	Sualletti, P.
Dougherty, B.	Ivers, Harris	Squellati, V.
Doherty, William F.	<u>Janis? H.</u>	Thompson, R.
Dragovich, M.	Joeland? Bert	Trethaway, John
Dragovich, W.	Jurich, George	Trici, B.
Dunlap, William	Jurisoich, Sam	Werts, E.
Eary, Henry	Kreth, Henry	Wing?, Bert
Eary, L.	Kueta? M.	Wood, F. N?
Ericrich, S. W.	Laberg? Max	Zanan, John
Fala, Tony	Lafountain, Ray	Zili, C.
Farnia, C.	Lees, E.	
Farseurle, George	Lee, Gene	

Line Item	Totals	%	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Total Expenses	\$62,171.21		\$998.96	\$3,869.25	\$4,564.40	\$4,839.40	\$4,566.40	\$4,305.15	\$4,169.38	\$5,312.33	\$4,803.89	\$7,043.91	\$5,345.40	\$4,475.89	\$4,538.61	\$3,338.24
Operational Expenses	\$14,570.58	23.4%	\$63.80	\$1,582.14	\$1,301.79	\$1,722.12	\$786.44	\$893.24	\$639.21	\$352.15	\$1,178.33	\$2,810.98	\$772.25	\$447.57	\$1,073.60	\$946.96
Assaying	\$45.00	0.1%							\$15.00	\$15.00	\$15.00					
General	\$4,567.30	7.3%	\$63.80	\$304.60	\$272.83	\$777.46	\$239.09	\$266.90	\$272.60	\$292.15	\$333.82	\$303.78	\$336.26	\$332.57	\$366.73	\$404.71
Insurance	\$1,809.04	2.9%		\$100.00		\$110.21		\$286.35			\$469.63	\$149.59			\$376.01	\$317.25
Power	\$2,998.31	4.8%		\$250.44	\$362.78	\$265.64	\$273.60	\$260.35	\$306.61		\$344.88	\$297.00	\$321.15		\$315.86	
Repair & Maint.	\$154.64	0.2%						\$64.64	\$30.00	\$30.00						\$30.00
Stores	\$2,575.68	4.1%		\$912.10	\$651.18	\$553.81	\$258.75						\$99.84	\$100.00		
Surveying	\$165.00	0.3%		\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00		\$15.00	\$15.00	\$15.00	
Taxes	\$195.00	0.3%														\$195.00
Warehouse	\$2,060.61	3.3%										\$2,060.61				
Capital Expenses	\$18,234.07	29.3%	\$891.16	\$1,436.90	\$2,506.11	\$1,930.22	\$968.54	\$976.92	\$1,052.93	\$2,021.19	\$1,119.30	\$1,012.52	\$1,415.12	\$1,243.87	\$829.51	\$829.78
Start Up Capital Expenses	\$6,237.83	10.0%	\$891.16	\$1,436.90	\$2,506.11	\$1,400.06	\$3.60									
Buildings	\$635.28	1.0%		\$253.43	\$105.05	\$273.20	\$3.60									
Machine & Plant	\$3,739.45	6.0%	\$882.16	\$984.77	\$1,278.74	\$593.78										
Mine Equipment	\$834.51	1.3%			\$822.30	\$12.21										
Shaft Repair	\$765.61	1.2%	\$9.00	\$98.96	\$207.89	\$449.76										
Unwatering	\$262.98	0.4%		\$99.74	\$92.13	\$71.11										
Mining Capital Expenses	\$11,996.24	19.3%				\$530.16	\$964.94	\$976.92	\$1,052.93	\$2,021.19	\$1,119.30	\$1,012.52	\$1,415.12	\$1,243.87	\$829.51	\$829.78
Cross Cutting	\$603.26	1.0%						\$351.46					\$251.80			
Driving	\$3,738.09	6.0%						\$153.30	\$869.13		\$820.34	\$75.70	\$65.45	\$828.66	\$465.88	\$459.63
Plat Cutting	\$317.58	0.5%						\$186.40			\$57.69				\$73.49	
Rising	\$183.80	0.3%							\$183.80							
Shaft Sink	\$6,078.01	9.8%				\$530.16	\$964.94	\$285.76		\$2,021.19	\$241.27	\$936.82	\$1,097.87			
Winze	\$1,075.50	1.7%												\$415.21	\$290.14	\$370.15
Number of Workers			4	13	17	36	46	30	32	37	30	34	38	36	36	27
Labor Expenses	\$29,366.56	47.2%	\$44.00	\$850.21	\$756.50	\$1,187.06	\$2,811.42	\$2,434.99	\$2,477.24	\$2,938.99	\$2,506.26	\$3,220.41	\$3,158.03	\$2,784.45	\$2,635.50	\$1,561.50
Start Up Labor Expenses	\$2,046.11	3.3%	\$44.00	\$850.21	\$756.50	\$395.40										
Buildings	\$42.50	0.1%		\$42.50												
Machine & Plant	\$104.60	0.4%	\$17.60	\$42.50	\$44.50											
Shaft Repair	\$26.40	0.1%	\$26.40													
Unwatering	\$1,872.61	6.4%		\$765.21	\$712.00	\$395.40										
Mining Labor Expenses	\$27,320.45	43.9%				\$791.66	\$2,811.42	\$2,434.99	\$2,477.24	\$2,938.99	\$2,506.26	\$3,220.41	\$3,158.03	\$2,784.45	\$2,635.50	\$1,561.50
Cross Cutting	\$1,605.20	5.5%						\$973.60					\$631.60			
Driving	\$8,894.14	30.3%						\$365.10	\$1,981.84		\$1,879.75	\$322.00	\$157.90	\$2,088.30	\$1,317.75	\$781.50
Plat Cutting	\$753.96	2.6%						\$365.10			\$125.31				\$263.55	
Rising	\$495.40	1.7%						\$495.40								
Shaft Sink	\$13,041.40	44.4%				\$791.66	\$2,811.42	\$731.19		\$2,938.99	\$501.20	\$2,898.41	\$2,368.53			
Winze	\$2,530.35	8.6%												\$696.15	\$1,054.20	\$780.00

Table of monthly operational expenses by Parks and Loring, 1916-1917.

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² *Mining and Scientific Press*, October 21, 1916; Volume 113, pp. 610-611.

³ *John B. Marlette & others to Jabez C. Arnold*, June 9, 1859; Deeds Book D, pp. 66-67, Amador County Records Department (ACRD)

⁴ *Jabez C. Arnold to John B. Marlette & others*, June 9, 1859; Deeds Book D, pp. 68-69, ACRD.

⁵ *Cultural Resource Study of Middle Bar for EBMUD*, Deborah Cook and Julia Costello, 2002.

⁶ *Jabez C. Arnold to John B. Marlette & others*, June 9, 1859; Deeds Book D, pp. 69-71, ACRD.

⁷ *J.C. Arnold to Paul S. Shumway*, October 4, 1859; Deeds Book D, pp. 181, ACRD.

⁸ *Deed from Jabez C. Arnold to John B. Marlette and others*, November 22, 1859; Record #7815.7, Amador County Archives (ACA). Also, Deed Book D, pp. 227-229, ACRD.

⁹ *Writ of Attachment, A.J. Sargeant vs Jno B. Marlett et. al.*, June 19, 1861; Record #6674.786.2, ACA.

¹⁰ *Order of Sale, Ellis Evans vs J.B. Marlette et. al.* March 14, 1862; Record #6674.796, ACA.

¹¹ *Order of Sale, Ellis Evans vs J.B. Marlette et. al.*, March 18, 1862; Record #1228.10.15, ACA.

¹² *Robert Cosner, Sheriff to Hubbard & McAdams*, August 6, 1862, Deed Book E, pp. 501-503; ACRD.

¹³ *Order to Show Cause, Ellis Evans vs John B. Marlette*, October 16, 1862; Record #6674.796.4, ACA. This is attached to a *Petition of Affidavit for Order of Possession of Real Estate*. Unfortunately the handwriting is badly scribbled, making it difficult to extract its content.

¹⁴ *Robert Cosner, Sheriff to Hubbard & McAdams*, October 16, 1862, Deed Book F, pp. 81-83; ACRD.

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¹⁵ *J.R. Hardenbergh to M. Hardenbergh*, December 10, 1867; Deed Book K, pp. 440-443; ACRD.

¹⁶ *Amador Dispatch*, October 26, 1867; p2.

¹⁷ *Casco Mining Co. Receipt Book*, 4/25/1868-12/22/1869; Record #725, ACA.

¹⁸ *Amador Dispatch*, February 29, 1868; p2.

¹⁹ *Amador Dispatch*, March 28, 1868; p2.

²⁰ *A. McAdams and W. Hubbard to John J. Haley & al*, May 5, 1868; Deed Book K, pp. 673-674, ACRD.

²¹ *Mining and Scientific Press*, August 15, 1868; Volume 17, p. 102. Note that mining journals often received mine-specific information from local newspapers. There might be as much as a two-week delay between an event, and the reporting of it.

²² *Jackson Ledger*, September 5, 1868.

²³ *Mokelumne Hill Chronicle*, September 5, 1868.

²⁴ *Jackson Ledger*, October 17, 1868.

²⁵ *John J. Haley to J. Clement Uhler*, September 3, 1868; Deed Book L, pp. 16-18, ACRD.

²⁶ *J. Clement Uhler to John J. Haley*, March 26, 1869; Deed Book M, pp. 133-134, ACRD.

²⁷ *Jackson Ledger*, January 23, 1869.

²⁸ *Mining and Scientific Press*, December 26, 1868; Volume 17, p. 408.

²⁹ *Mining and Scientific Press*, April 17, 1869; Volume 18, p. 246.

³⁰ *Mining and Scientific Press*, June 5, 1869; Volume 18, p. 358.

³¹ *John R. Hartman to Maria Hardenbergh, Deed*, December 22, 1868; Record #7815.240, ACA.

³² *Mining and Scientific Press*, August 20, 1879; Volume 39, p. 124.

³³ *John J. Haley to Chicago Milling and Mining Co.*, August 6, 1870; Deed Book M, pp. 134-135, ACRD.

³⁴ *Sheriff Cosner to James Morgan*, November 6, 1873; Deed Book N, pp. 573-574, ACRD.

³⁵ *History of Amador County, California*, Jesse Mason. Thompson & West, 1881; p. 147.

³⁶ *United States of America to James Morgan, Mineral Certificate No. 122*; Book A Miscellaneous Patents, pp. 112-115, ACRD.

³⁷ *Amador Dispatch*, September 5, 1874.

³⁸ *James Morgan to J.R. Hardenbergh*, February 9, 1875; Deed Book O, p. 275, ACRD.

³⁹ *J.R. Hardenbergh to George R. Wells*, March 15, 1880; Deed Book S, pp. 159-162, ACRD.

⁴⁰ *Funeral of Ex-Mayor Hardenbergh, Sacramento Daily Union, Volume 53, Number 87, June 3, 1885.*

⁴¹ *Mining and Scientific Press, February 7, 1885; Volume 50, p. 90.*

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⁴² *Amador Ledger, April 23, 1887.*

⁴³ *Engineering & Mining Journal, May 11, 1889; Volume 47, p. 440.*

⁴⁴ *Mining and Scientific Press, June 15, 1889; Volume 48, p. 436.*

⁴⁵ *Charles Parker to The Morley Gold Mining Co. Ltd., January 9, 1889; Deed Book 3, pp. 372-374.*

⁴⁶ *The Morley Gold Mining Co. Ltd. To Curtis G. Stoddart, January 9, 1889; Deed Book 3, pp. 456-458.*

⁴⁷ *Commercial Gazette, March 5, 1889.*

⁴⁸ *Mining and Scientific Press, April 4, 1890; Volume 60, p. 282.*

⁴⁹ *Mining and Scientific Press, December 21, 1889; Volume 59, p. 450.*

⁵⁰ *Location of Water Rights, S. H. Howland, October 19, 1891; ACRD.*

⁵¹ *Mining and Scientific Press, April 1, 1893, Volume 66, p. 205.*

⁵² *Mining and Scientific Press, December 31, 1892; Volume 65, p. 437.*

⁵³ *Amador Ledger, October 8, 1881.*

⁵⁴ *Amador Ledger, April 5, 1890; p. 3.*

⁵⁵ *Mining and Scientific Press, December 6, 1890; Volume 61, p. 364.*

⁵⁶ *Report X of the State Mineralogist, December 1, 1890; p. 106.*

⁵⁷ *Mining and Scientific Press, February 21, 1891; Volume 62, p. 116.*

⁵⁸ *Calaveras Citizen, March 14, 1891.*

⁵⁹ *Amador Dispatch, March 21, 1891; p. 3.*

⁶⁰ *Mining and Scientific Press, May 9, 1891; Volume 62, p. 276.*

⁶¹ *Amador Ledger, June 6, 1891.*

⁶² *Engineering and Mining Journal, May 14, 1892; Volume 53, p. 527.*

⁶³ *Mining and Scientific Press, July 2, 1892; Volume 65, p. 14.*

Hayward and Lane Years (1893-1896)

⁶⁴ *Engineering and Mining Journal, December 24, 1892; Volume 54, p. 613.*

⁶⁵ *Mother Lode Gold Belt of California, Bulletin 108, November 1934; pp. 84-85.*

⁶⁶ *George R. Wells to Alvinza Hayward, December 27, 1892; Agreement Book E, pp. 475-484.*

⁶⁷ *Amador Ledger, December 23, 1892.*

⁶⁸ *Mining and Scientific Press, October 21, 1916; Volume 113, pp. 610-611.*

⁶⁹ *Mining and Scientific Press, January 7, 1893; Volume 66, p. 13.*

⁷⁰ *Mining and Scientific Press, April 1, 1893; Volume 66, p. 205.*

⁷¹ *George R. Wells to Alvinza Hayward, March 1, 1893; Agreements Book E, pp. 504-510, ACRD.*

⁷² *Application for Federal Post Office, April 19, 1893; Record #1335.6.35, ACA.*

⁷³ *Samuel B. Hardenbergh et. al. to George Wells, May 27, 1893; Deed Book 23, pp. 543-545*

⁷⁴ *S.B. & C.P. Hardenbergh to George R. Wells, July 13, 1893; Deed Book 9, pp. 74-76.*

⁷⁵ *Mining and Scientific Press, January 13, 1894; Volume 68, p. 24.*

⁷⁶ *Mining and Scientific Press, April 28, 1894; Volume 68, p. 269.*

⁷⁷ *Mining and Scientific Press, July 28, 1894; Volume 69, p. 58.*

⁷⁸ *Mining and Scientific Press, May 18, 1895; Volume 70, p. 307.*

⁷⁹ *Mining and Scientific Press, June 22, 1895; Volume 70, p. 398.*

⁸⁰ *Mining and Scientific Press, January 18, 1896; Volume 72, p. 50.*

⁸¹ *Mother Lode Gold Belt of California, Bulletin 108; pp. 84-85.*

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⁸³ *George Wells to Kate Wells, July 28, 1902; Deed Book 23, pp. 521-524.*

⁸⁴ *Kate Wells to Julia E. Sargent, August 21, 1902; Deed Book 23, pp. 551-553.*

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- ⁹¹ *Engineering and Mining Journal*, May 27, 1911; Volume 92, p. 467.
- ⁹² *Engineering and Mining Journal*, July 20, 1912; Volume 94, p. 133.
- ⁹³ *Engineering and Mining Journal*, August 10, 1912; Volume 94, p. 278. This article provides extensive detail on the configuration of the machinery and ore processing for the mine.
- ⁹⁴ *Engineering and Mining Journal*, October 12, 1912; Volume 94, p. 712.
- ⁹⁵ *Engineering and Mining Journal*, November 9, 1912, Volume 94, p. 905.
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